

REMARKS / ARGUMENTS

In response to the Office Action dated March 9, 2005, Applicant respectfully requests the Office to enter the amendments set forth above and consider the following remarks. By this amendment, claims 1, 5 and 13 are amended, claim 4 is canceled without prejudice or disclaimer, and new claims 15-21 are added. After entry of this paper, claims 1-3 and 5-21 will be pending in this application.

In the Office Action, the Examiner: (i) objected to the disclosure in that "IC-tip" should read "IC-chip," and that "Fig. 3 is" should read "Fig. 3a and 3b are;" (ii) objected to informalities in claims 4, 5 and 13; (iii) rejected claims 1-3, 6, 7 and 14 under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 6,160,526 to Hirai *et al.* ("Hirai"); (iv) rejected claims 12 and 13 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Hirai; and (v) rejected claims 4, 5 and 8-11 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Hirai in view of Usami *et al.* (US 6,291,877 B1).

Objections to the Specification

The Examiner objected to the specification due to certain informalities. Office Action at section 1, page 2. Applicant hereby amends the specification as suggested by the Office in order to correct the informalities, as shown in the amended specification attached hereto.

Accordingly, Applicant respectfully requests that the objections to the specification be withdrawn.

Objections to the Claims

The Examiner objected to claims 4, 5 and 13 due to certain informalities. Office Action at section 2, page 2. Claim 4 has been canceled without prejudice or disclaimer, and its recitations added to claim 1. Applicant have therefore made the corrections suggested by the Office in claims 1, 5, and 13, as shown above.

Accordingly, Applicant respectfully requests that objections to the claims 4, 5 and 13 be withdrawn.

Rejections under 35 U.S.C. § 102(b)

Claims 1-3, 6, 7 and 14 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Hirai. Office Action at page 3.

Without acquiescence to the correctness of the instant rejection, and in the interest of expediting prosecution and avoiding additional costs, Applicant has amended claim 1 to incorporate the recitations of claim 4. Claims 2-3, 6, 7 and 14 all depend from claim 1, and thus now also include the recitations of claim 4. Accordingly, as explained below, Hirai cannot anticipate these claims, and Applicants respectfully request that the rejections to claims 1-3, 6, 7 and 14 under 35 U.S.C. § 102(b) be withdrawn. Moreover, as is explained in even further detail in the § 103 discussions below, Applicant believes claim 1, as amended to be patentable over the cited references. For example, amended claim 1 recites, in part:

1. An IC card, comprising:
 a first support,
 a second support,
 an IC module including an IC chip, a reinforcing
 structural member . . .
 wherein **the reinforcing structural member is a
metallic reinforcing plate** having an upper surface
on which the IC chip is mounted and an area of the
upper surface of the metallic reinforcing plate is larger
than an area of the IC chip . . .

(Emphasis added.)

To illustrate this first distinction, note that Hirai discloses that an IC card in which the flexible substrate 1 neighbors to the IC chip 2. See. Fig. 29. Also, the Hirai discloses that "(t)he flexible substrate 1 comprises a thin flexible synthetic-resin film as a base material. (a)n example of the base material is a polyimide film." See column 5, lines 22-24. However, Hirai does not teach or suggest that the flexible substrate is a metal. Accordingly, Hirai does not teach or suggest at least that **"the reinforcing**

structural member is a metallic reinforcing plate” as recited by claim 1, as amended (emphasis added).

Moreover, as stated in page 6 of the Office Action:

Hirai et al fails to specifically teach wherein the reinforcing structural member is a metallic reinforcing plate.

Thus, the Office has admitted that Hirai does not teach or suggest at least the metallic reinforcing plate of the amended claim 1.

Therefore, for at least these reasons, Applicant respectfully requests that the rejection of claim 1 under 35 U.S.C. § 102(b) be withdrawn and the claim allowed.

Claims 2, 3, 6, 7 and 14 depend, directly or indirectly, from claim 1. Therefore, for at least the reasons stated above in connection with claim 21, Applicant respectfully requests that the rejection of these claims under 35 U.S.C. § 102(b) be withdrawn and the claims allowed.

Rejections under 35 U.S.C. § 103(a)

Claims 12 and 13 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Hirai, while claims 4, 5 and 8-11 stand rejected as allegedly being unpatentable over Hirai in view of Usami Office Action at sections 6-7, pages 4-5.

As discussed earlier, Applicant has amended claim 1 (from which all of these claims ultimately depend) to include the recitations of claim 4. Thus, amended claim 1 recites, in part:

1. An IC card, comprising:
 - a first support,
 - a second support,
 - an IC module including an IC chip, a reinforcing structural member . . .
 - wherein **the reinforcing structural member is a metallic reinforcing plate having an upper surface on which the IC chip is mounted and the area of the upper surface of the metallic reinforcing plate is larger than the area of the IC chip, and**
 - wherein when θ is an angle between the upper surface of the metallic reinforcing plate and a line

connecting an edge of the upper surface of the metallic reinforcing plate with an edge of an upper surface of the IC chip, the following formula is satisfied:

$$0.02 < \tan \theta < 0.2.$$

(Emphasis added.)

Although the Examiner rejected the original claim 4 under 35 U.S.C. § 103(a), Applicant respectfully traverses the rejection and submits that claim 1, as amended to include the recitations of claim 4, is allowable.

In this regard, note that the Office has indicated:

Hirai et al also teaches . . . wherein when θ is an angle between the upper surface of the reinforcing structural member and a line connecting an edge of the upper surface of the reinforcing structural member with an edge of an upper surface of the IC chip, the following formula satisfied: $0.02 < \tan \theta < 0.2$; . . . (while Hirai et al does not teach specific sizes and dimensions of the IC chip and the reinforcing structural member, the scale of these components, shown in figures 29-31, suggests to one of ordinary skill in the art at the time of the invention Applicant's claimed formula)

Office Action at section 7, page 5.

Upon further review of Hirai, however, it appears that the Examiner's statement above is based not on the written description in the specification of Hirai, but only on Fig. 29-31 of Hirai. However, the proportions of Fig. 29-31 of Hirai are not teaching disclosures because Hirai does not indicate that Fig. 20-31 are scale drawings. MPEP § 2125 states that "when the reference does not disclose that the drawings are to scale and is silent as to dimensions, arguments based on measurement of the drawing features are of little value. See, also, *Hockerson-Halberstadt, Inc. v. Avia Group Int'l*, 222 F.3d 951, 956, 55 USPQ2d 1487, 1491 (Fed. Cir. 2000)." Therefore, Applicant submits that Hirai does not teach or suggest, *inter alia*, **"when θ is an angle between the upper surface of the metallic reinforcing plate and a line connecting an edge of the upper surface of the metallic reinforcing plate with an edge of an upper surface of the IC chip, the following formula is satisfied: $0.02 < \tan \theta < 0.2$."** Claim

1 (emphasis added). Furthermore, Usami fails to sure this deficiency, nor does Usami teach or suggest the formula of "**0.02 < tan θ < 0.2.**" Claim 1 (emphasis added).

Accordingly, because the formula of $0.02 < \tan \theta < 0.2$ of claim 1 is not disclosed in Hirai and Usami, taken alone or together, it would not have been obvious to one of ordinary skill in the art at the time of the invention to satisfy the formula of $0.02 < \tan \theta < 0.2$ of claim 1.

Additionally, the Office has also stated:

(i)n view of Usami et al's teachings, it would have been obvious to one of ordinary skill in the art at the time of the invention to include, with the IC card as taught by Hirai et al, wherein the reinforcing structural member is a metallic reinforcing plate, in order to further increase the strength of the IC card.

Office Action at section 7, page 6.

Applicant disagree, and respectfully traverses the above rejection for the following reasons. First, Hirai discloses that the flexible substrate 1 neighbors to the IC chip 2. See. Fig. 29. Also, the Hirai discloses that "(t)he flexible substrate 1 comprises a thin **flexible** synthetic-resin film as a base material. (a)n example of the base material is a polyimide film. (emphasis added)" See column 5, lines 22-24. In contrast, Usami discloses that "(a) thin LSI which stands alone . . . is difficult to handle. (t)he handling is facilitated and strength of a thin LSI increased by holding it between plastics or metal materials." See column 10, lines 5-7. Thus the cited references teach that the metal materials should be **less flexible** in order to increase strength of the thin LSI.

In conclusion, the nature of the flexible substrate of Hirai and the nature of the metal materials of Usami being less flexible are opposite. In other words, the flexible substrate of Hirai teaches away the incorporation of the metal materials of Usami into the IC card of Hirai. Therefore, it would have not been obvious to one of ordinary skill in the art at the time of the invention to combine Hirai with Usami in order to include the metallic reinforcing structural member into the IC card.

For at least all of the above reasons, claim 1 and its dependent claims are allowable over the cited references. Accordingly, Applicants request the rejections of

claims 4, 5, 8-11, 12 and 13 under 35 U.S.C. § 103(a) be withdrawn and the claims allowed.

New Claims

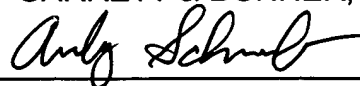
Additionally, Applicant submits that new claims 15-21 do not raise new issues, present new matter or necessitate the undertaking of any additional search because all of these claims recite subject matter from the existing dependent claims, and thus all of the elements and relationships are inherent to the claims already examined. Therefore, the subject matter of the newly presented claims has already been before the Office, and no new matter or issues are presented by this amendment and response. The new claims, which are all dependent claims, are also allowable because they depend on allowable base claim 1. New claims 15-21 are thus allowable for at least the same reasons as set forth previously with respect to claim 1. Accordingly, Applicant respectfully request allowance of new claims 15-21.

In view of foregoing remarks, Applicant submits that this claimed invention, as amended, is neither anticipated nor rendered obvious in view of the references cited against this application. Applicant therefore respectfully requests reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extension of time required to enter this response and charge any additional required fees to Deposit Account 06-0916.

Respectfully submitted,

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